



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/769,243

01/30/2004

Jacek Stachurski

TI-35418

8176

23494 7590 05/08/2009
TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER

SAINT CYR, LEONARD

ART UNIT

PAPER NUMBER

2626

NOTIFICATION DATE

DELIVERY MODE

05/08/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

Office Action Summary	Application No. 10/769,243	Applicant(s) STACHURSKI ET AL.	
	Examiner LEONARD SAINT CYR	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/05/08 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 02/09/08 have been fully considered but they are not persuasive.

Applicant argues that neither Gersho nor Honda teach or suggest determining a zero-phase equalization filter for said frame wherein harmonics which fall into a band that was determined to have a voicing level below a threshold are replaced for said zero-phase equalization filter; equalization filter is only applied to the harmonics recognized as voice (Amendment, pages 3 – 5).

The examiner disagrees, Honda discloses “in the phase equalizing-analyzing part coefficients of a **phase equalizing filter for rendering the phase characteristic of the speech into a zero phase** and reference time points of phase equalization are computed. When a sound is **discriminated to be a voiced sound V**, the residual waveform $e(n)$ inputted at the terminal is supplied through the **switch to a phase-equalizing filter**” (col.4, lines 5 – 9; col.7, lines 64 – 66).

Applicant argues that Gersho and Honda teach away from each other; do not suggest motivation for modifying the reference or to combine the reference teachings (Amendment, page 4).

The examiner disagrees, since Gersho teaching voice or speech classification by disclosing (“for every frame, a speech classifier module classifies the speech as

stationary unvoiced, steady state or transition speech"; col.13, lines 22 – 25; figs 1A, and 1B col.18, lines 17 - 21); and Honda discloses " When a sound is discriminated to be a voiced sound V, the residual waveform $e(n)$ inputted at the terminal is supplied through the switch to a phase-equalizing filter " (col.7, lines 64 – 66).

Thus, Honda shows motivation for modifying the speech or voice classification of Gersho.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gersho et al., (US Patent 6,233,550), in view of Honda (US Patent 5,495,556).

As per claim 1, Gersho et al., teach a method of speech encoding of a digital signal processor, comprising:

determining bandpass voicing levels for each of a plurality of bands for a frame of speech ("for every frame, a speech classifier module classifies the speech as stationary unvoiced, steady state or transition speech"; col.13, lines 22 – 25; figs 1A, and 1B col.18, lines 17 - 21).

However Gersho et al., do not specifically disclose determining a zero-phase equalization filter for said frame; and that harmonic which fall into a band that was determined to have a voicing level below a threshold are replaced for said zero-phase equalization filter; equalization filter is only applied to the harmonics recognized as voice.

Honda teaches that in the phase equalizing-analyzing part coefficients of a phase equalizing filter for rendering the phase characteristic of the speech into a zero phase and reference time points of phase equalization are computed (col.4, lines 5 – 9). When a sound is discriminated to be a voiced sound V, the residual waveform $e(n)$ inputted at the terminal is supplied through the switch to a phase-equalizing filter " (col.7, lines 64 – 66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to render the phase characteristic of the speech into a zero phase as taught by Honda in Gersho et al., because that would help classify the speech signal (col.7, lines 42 – 45).

As per claim 2, Gersho et al., further disclose determining bandpass voicing of step (a) uses the frequency bands 0-500 Hz, 500-1000 Hz, 1000-2000 Hz, 2000-3000 Hz, and 3000-4000 Hz (see figures; figs 1A, and 1B).

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 2626

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or (571)-272-1000.

LS
04/27/09

Application/Control Number: 10/769,243

Page 6

Art Unit: 2626

/Richemond Dorvil/

Supervisory Patent Examiner, Art Unit 2626